Antioxidants for aquaculture

Oxidation of aquaculture feeds irreversibly alters the quality of the feed causing a reduction in the nutritional quality of feed and loss of pigment where used. Oxidation is one of the main quality issues facing aquaculture.

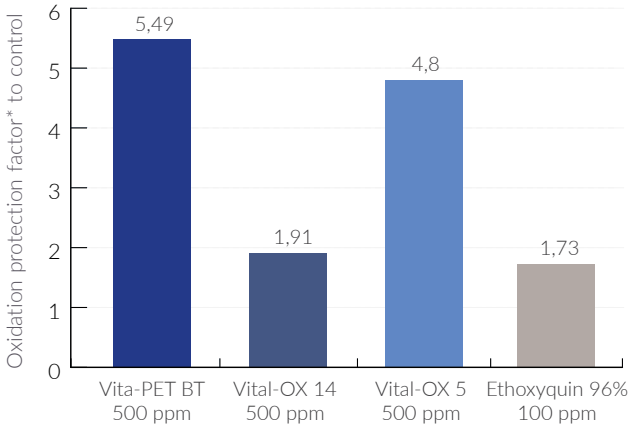
Effective antioxidants such as BHA, BHT, gallates and notably ethoxyquin have been used by the fish feed industries for many years. In 2020 the cessation of the use of ethoxyquin in fish feed within Europe, by EFSA, deprived the use of a highly cost-efficient antioxidant.

As we strive for naturalness antioxidants such as tocopherol (vitamin E), rosemary and synergists such as ascorbic acid (vitamin C) and its ester, ascorbyl palmitate, offer efficacy for use in aquaculture.

Vitablend offers natural and synthetic antioxidant systems with a strong consideration to cost-in-use by studying the synergy between different antioxidant compounds. Vitablend uses effective sequestrants, such as citric acid, for feed with high iron for example.

Vita-PET and ethoxyquin

It is theoretically possible to achieve similar, if not better, protection compared with the use of ethoxyquin by the use of Vita-PET BT. Vita-PET BT can provide a modest impact on cost compared to the use of ethoxyquin.



* *Protection factor (p.f.) = hours to oxidation of sample with AOX / hours to oxidation by control (no AOX)*

Oxidative protection factor study on fish meal model

Vitablend antioxidants for aquaculture

Product	Natural or synthetic (N/S)	Suitable for organic use	Composition
Vital-OX 14	S	No	BHT
Vital-OX 20	S	No	BHA and BHT synergistic combination
Vita-PET BT	S	No	Optimised BHA and BHT ratio for cost-effective replacement of ethoxyquin
Aquapet UF	N	Yes	Natural mixed tocopherols
Vita-PET 24-8-8	S	No	BHA, propyl gallate, citric acid
Toco-PET IP	N	Yes	Natural mixed tocopherols
Toco-PET IPR	N	No	Natural mixed tocopherols, rosemary extract
Toco-PET PD 30 X IP	N	No	NMT in powder form

Sequestrants added on request according to presence of pro-oxidative trace metals such as iron in feed